

Overview

Useful For

Detecting mercury toxicity, a toxic heavy metal, in random urine specimens

Profile Information

Test ID	Reporting Name	Available Separately	Always Performed
HGRC	Mercury/Creatinine Ratio, U	No	Yes
CDCR	Creatinine Conc	No	Yes

Special Instructions

- [Trace Metals Analysis Specimen Collection and Transport](#)

Method Name

HGRC: Inductively Coupled Plasma-Mass Spectrometry (ICP-MS)

CDCR: Enzymatic Colorimetric Assay

NY State Available

Yes

Specimen

Specimen Type

Urine

Specimen Required

Patient Preparation: High concentrations of gadolinium and iodine are known to interfere with most metals tests. If either gadolinium- or iodine-containing contrast media has been administered, a specimen should not be collected for 96 hours.

Supplies: Urine Tubes, 10 mL (T068)

Collection Container/Tube: Clean, plastic urine container with no metal cap or glued insert

Submission Container/Tube: Plastic, 10-mL urine tube (T068) or clean, plastic aliquot container with no metal cap or glued insert

Specimen Volume: 3 mL

Collection Instructions:

1. Collect urine a random urine specimen.
2. See [Trace Metals Analysis Specimen Collection and Transport](#) in Special Instructions for complete instructions.

Specimen Minimum Volume

1.5 mL

Reject Due To

All specimens will be evaluated at Mayo Clinic Laboratories for test suitability.

Specimen Stability Information

Specimen Type	Temperature	Time	Special Container
Urine	Refrigerated (preferred)	7 days	
	Frozen	7 days	

Clinical and Interpretive**Clinical Information**

The correlation between the levels of mercury (Hg) excretion in the urine and the clinical symptoms is considered poor. However, urinary Hg is the most reliable way to assess exposure to inorganic Hg.

For additional information, see HG / Mercury, Blood.

Reference Values

0-17 years: not established

> or =18 years: <2 mcg/g creatinine

Interpretation

Daily urine excretion of mercury above 50 mcg/day indicates significant exposure (per World Health Organization standard).

Cautions

To avoid contamination by dust, specimen should be collected away from the site of suspected exposure.

Clinical Reference

1. Lee R, Middleton D, Caldwell K, et al. A review of events that expose children to elemental mercury in the United States. Environ Health Perspect 2009 Jun;117(6):871-878
2. Bjorkman L, Lundekvam BF, Laegreid T, et al: Mercury in human brain, blood, muscle and toenails in relation to exposure: an autopsy study. Environ Health 2007 Oct 11;6:30

Performance**Method Description**

Mercury(Hg) in urine is analyzed by inductively coupled plasma-mass spectrometry (ICP-MS) in kinetic energy discrimination (KED) mode using gallium (Ga), rhodium (Rh), and iridium (Ir) as internal standards and a 5% nitric acid salt matrix calibration.(Unpublished Mayo method)

PDF Report

No

Day(s) and Time(s) Test Performed

Monday through Saturday; 7 p.m.

Analytic Time

1 day

Maximum Laboratory Time

4 days

Specimen Retention Time

14 days

Performing Laboratory Location

Rochester

Fees and Codes**Fees**

- Authorized users can sign in to [Test Prices](#) for detailed fee information.
- Clients without access to Test Prices can contact [Customer Service](#) 24 hours a day, seven days a week.
- Prospective clients should contact their Regional Manager. For assistance, contact [Customer Service](#).

Test Classification

See Individual Test IDs

CPT Code Information

83825

82570

LOINC® Information

Test ID	Test Order Name	Order LOINC Value
HGRCR	Mercury/Creat Ratio, Random, U	13465-0

Result ID	Test Result Name	Result LOINC Value
CDCR	Creatinine Conc	2161-8
48546	Mercury/Creatinine Ratio, U	13465-0